

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: METALUX

Report Number: P381719

Luminaire Tested: **BMK-60-MCL-UNV-L750-CD-U**

Issue Date: 2/4/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P381719  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-6)  
Test Lab: INNOVATIONS CENTER(G2)  
Issue Date: 2/4/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-60-MCL-UNV-L750-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM CLEAR LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 63567.4 lumens  
Efficiency: N/A  
Efficacy: 156.7 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.41 / 1.39  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

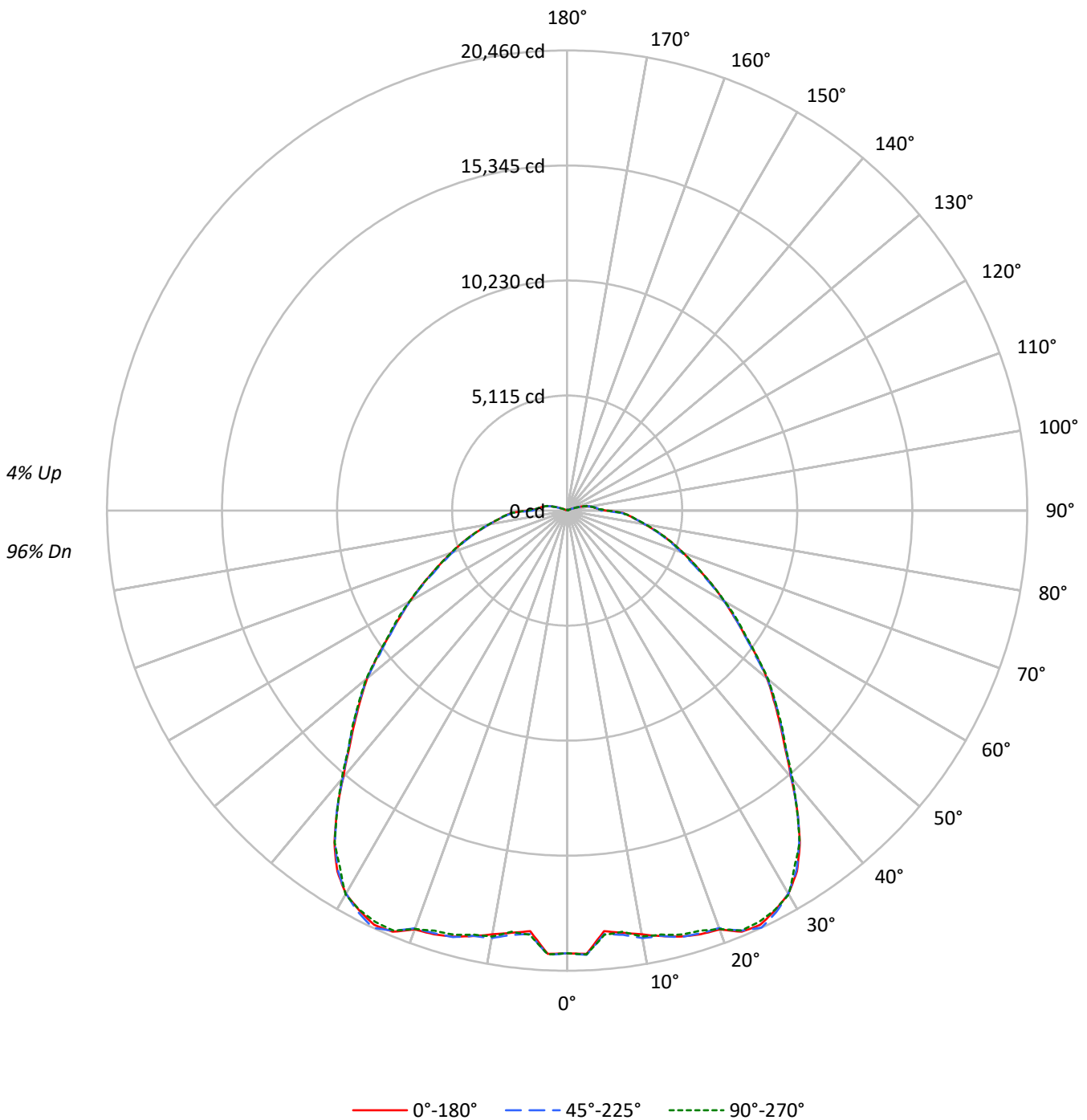
Input Watts (W): 405.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	118	118	118	118	115	115	115	115	109	109	109		104	104	104		99	99	99	96
1	107	102	97	93	104	99	95	91	94	90	87		89	87	84		85	83	81	78
2	97	88	81	75	94	86	80	74	82	77	72		78	74	70		75	71	68	65
3	89	78	69	63	86	76	68	62	72	66	60		69	63	59		66	61	57	55
4	81	69	60	53	79	67	59	53	64	57	52		62	55	50		59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45		55	49	44		53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39		50	44	38		48	42	38	36
7	64	50	42	35	62	49	41	35	48	40	35		46	39	34		44	38	34	32
8	60	46	37	32	58	45	37	31	43	36	31		42	35	31		41	35	30	28
9	56	42	34	28	54	41	34	28	40	33	28		39	32	28		37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25		36	29	25		35	29	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	151797	151797	151797
5°	143805	144787	145108
10°	146756	148030	147499
15°	151703	151895	151025
20°	155840	155419	155717
25°	163823	164942	162684
30°	163911	163835	164249
35°	156725	156338	156566
40°	141756	141947	142773
45°	130247	130885	131306
50°	121871	122077	122572
55°	110697	110351	111208
60°	103186	103086	103503
65°	96613	95397	96690
70°	92961	91785	93118
75°	92253	90985	92173
80°	92501	92779	93955
85°	104618	104177	106036



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1825.5	2.9
10°-20°	5547.9	8.7
20°-30°	9301.6	14.6
30°-40°	11156.4	17.6
40°-50°	10399.1	16.4
50°-60°	8673.7	13.6
60°-70°	6589.6	10.4
70°-80°	4700.5	7.4
80°-90°	2978.4	4.7
90°-100°	1430.6	2.3
100°-110°	744.8	1.2
110°-120°	101.0	0.2
120°-130°	30.1	0.0
130°-140°	33.5	0.1
140°-150°	28.1	0.0
150°-160°	15.1	0.0
160°-170°	8.6	0.0
170°-180°	2.9	0.0
0°-30°	16675.1	26.2
0°-40°	27831.5	43.8
0°-60°	46904.2	73.8
0°-90°	61172.7	96.2
90°-120°	2276.4	3.6
90°-150°	2368.1	3.7
90°-180°	2395.0	3.8
0°-180°	63567.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	19681	19681	19681	19681	19681	
5°	18768	18849	18896	18909	18938	###
15°	19606	19553	19631	19674	19519	5553
25°	20322	20364	20460	20311	20180	9296
35°	18036	17987	17992	18050	18018	11169
45°	13366	13402	13432	13448	13475	10359
55°	9636	9611	9606	9581	9680	8693
65°	6649	6534	6566	6577	6654	6637
75°	4475	4442	4414	4424	4471	4720
85°	2796	2796	2784	2772	2833	2427
90°	1728	1661	1521	1643	1756	1010
95°	1268	1317	1320	1281	1273	999
105°	717	725	718	712	726	749
115°	58	62	63	60	62	99
125°	34	34	33	34	35	30
135°	43	43	43	43	44	33
145°	47	46	46	46	44	29
155°	31	31	30	30	31	15
165°	31	30	30	30	30	9
175°	29	30	29	30	31	3
180°	30	30	30	30	30	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	19680.8	19680.8	19680.8	19680.8	19680.8
2.5°	19729.2	19678.2	19771.1	19803.8	19752.8
5°	18767.7	18848.9	18895.9	18909.0	18937.8
7.5°	18931.3	18848.9	19022.8	19022.8	18888.1
10°	19132.7	19323.7	19298.8	19267.5	19229.5
12.5°	19380.0	19372.1	19369.5	19342.0	19310.6
15°	19606.3	19552.6	19631.1	19674.3	19518.6
17.5°	19750.2	19599.7	19704.4	19777.6	19587.9
20°	19811.6	19656.0	19758.0	19881.0	19795.9
22.5°	20272.1	20174.0	20214.5	20306.1	20210.6
25°	20321.8	20363.7	20460.5	20311.3	20180.5
27.5°	20034.0	20094.2	20132.1	20111.2	20009.2
30°	19673.0	19658.6	19663.8	19737.1	19713.5
32.5°	19021.5	18939.1	18969.2	18886.8	18801.8
35°	18036.5	17986.8	17992.0	18049.6	18018.2
37.5°	16812.1	16736.2	16817.3	16859.2	16788.5
40°	15489.6	15602.1	15510.5	15540.6	15600.8
42.5°	14345.0	14447.0	14399.9	14441.8	14393.4
45°	13366.5	13401.8	13431.9	13447.6	13475.1
47.5°	12457.3	12495.3	12518.8	12535.8	12537.1
50°	11601.8	11587.4	11621.4	11533.8	11668.5
52.5°	10606.3	10512.1	10508.2	10479.4	10631.2
55°	9635.7	9610.8	9605.6	9580.7	9680.2
57.5°	8815.5	8818.1	8831.2	8839.0	8922.8
60°	8072.5	8003.1	8064.6	8046.3	8097.3
62.5°	7347.8	7265.4	7295.4	7294.1	7362.2
65°	6649.2	6534.1	6565.5	6577.3	6654.5
67.5°	6042.3	5980.8	5945.5	5995.2	6051.4
70°	5474.5	5432.7	5405.2	5437.9	5483.7
72.5°	4960.4	4901.6	4902.9	4896.3	4977.4
75°	4475.1	4442.4	4413.6	4424.1	4471.2
77.5°	3955.8	3997.6	3941.4	3962.3	3983.3
80°	3492.7	3539.8	3503.2	3499.2	3547.6
82.5°	3126.4	3130.4	3129.0	3106.8	3122.5
85°	2795.5	2795.5	2783.7	2771.9	2833.4
87.5°	2490.7	2426.6	2413.5	2422.7	2459.3
90°	1728.0	1661.3	1521.4	1643.0	1755.5
92.5°	1423.2	1448.1	1411.5	1411.5	1427.2
95°	1267.6	1317.3	1319.9	1280.7	1272.8
97.5°	1165.5	1196.9	1185.2	1164.2	1176.0
100°	1041.3	1051.7	1041.3	1033.4	1037.3
102.5°	928.8	927.5	922.2	913.1	937.9
105°	716.9	724.7	718.2	711.6	726.0
107.5°	502.3	495.8	485.3	486.6	493.2
110°	304.8	306.1	287.8	293.0	311.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	138.7	146.5	151.7	143.9	147.8
115°	57.6	61.5	62.8	60.2	61.5
117.5°	30.1	30.1	28.8	30.1	32.7
120°	27.5	28.8	26.2	27.5	30.1
122.5°	30.1	31.4	30.1	31.4	32.7
125°	34.0	34.0	32.7	34.0	35.3
127.5°	36.6	36.6	35.3	36.6	37.9
130°	37.9	39.2	39.2	39.2	39.2
132.5°	40.6	41.9	40.6	41.9	41.9
135°	43.2	43.2	43.2	43.2	44.5
137.5°	45.8	45.8	45.8	45.8	45.8
140°	47.1	47.1	47.1	47.1	47.1
142.5°	48.4	47.1	47.1	47.1	45.8
145°	47.1	45.8	45.8	45.8	44.5
147.5°	43.2	43.2	41.9	43.2	41.9
150°	39.2	37.9	37.9	37.9	37.9
152.5°	34.0	34.0	32.7	34.0	34.0
155°	31.4	31.4	30.1	30.1	31.4
157.5°	31.4	31.4	30.1	30.1	31.4
160°	31.4	31.4	30.1	30.1	30.1
162.5°	31.4	31.4	30.1	30.1	30.1
165°	31.4	30.1	30.1	30.1	30.1
167.5°	31.4	30.1	30.1	30.1	30.1
170°	31.4	30.1	30.1	30.1	30.1
172.5°	30.1	30.1	30.1	30.1	30.1
175°	28.8	30.1	28.8	30.1	31.4
177.5°	28.8	28.8	28.8	30.1	31.4
180°	30.1	30.1	30.1	30.1	30.1

(END OF REPORT)